Accommodations Toolkit

Extended Time: Research

This fact sheet on **extended time** is part of the *Accommodations Toolkit* published by the National Center on Educational Outcomes (NCEO). It summarizes information and research findings on extended time as an accommodation for students with disabilities.[1] The toolkit also contains a summary of states' accessibility policies for extended time.

What is extended time? Extended time is additional or extra time provided to a student to complete an assessment or section of an assessment. The provision of extended time for students with disabilities is typically one and one-half to two times longer than the standard time for students without disabilities (Lewandowski et al., 2007). Extended time is often used with other accommodations (Middleton, 2007).

What are the research findings on who should use this accommodation? Extended time may benefit some students with various disabilities across the grade span from primary to secondary levels.

What are the research findings on the implementation of extended time? Twenty-one studies addressing extended time were reviewed. The results of the studies varied with some having positive effects, others mixed effects, and still others no effect on students' assessment performance. Seven studies found that extended time had a positive impact. Another three studies showed mixed results; whereas, eleven studies resulted in no significant effect.

- Two studies showed the positive effects of extended time for high school students with attention-deficit/hyperactivity disorder (ADHD). In one study, some students' scores were somewhat higher on a reading test when provided extended time compared to standard time conditions (Brown et al., 2011). Another study looked at students with both ADHD and learning disabilities (LD). The results were that extended time improved scores significantly on a writing assessment that was not directly related to overall visual-motor processing speed factors but possibly other skills (Antalek, 2005).
- Two studies involved students with LD and resulted in positive effects. In a comparison study, extended time more than oral administration appeared to benefit some fifth-grade students on problems that required substantial reading during a mathematics assessment (Kappel, 2002). In a second study, which was the only study with extended time that occurred over multiple days, found fifth-grade students performed significantly better than eighth-grade students on a writing assessment administered across three days (Crawford et al., 2004).
- Three of the reviewed studies included students with various disabilities and showed positive effects of extended time on their performances on different content assessments. One study with middle school students showed gains in their mathematics scores with no significant differences by disability status (Elliott & Marquart, 2004). In a study of secondary students, there were modest score gains for verbal and math assessments; however, extended time may have overcompensated for some students, permitting them to respond more thoroughly than students with less time (Camara, 2000). In a study with fourth-grade students receiving special education services, extended time was the most used accommodation in mathematics, writing, and health assessments. This study found that student performance levels were higher when extended time was provided than when other accommodations were provided when compared to students not in special education (Elliott et al., 1999).
- There were three studies with students across the grade span with various disabilities that had mixed results. One study was a review of individualized education programs (IEPs) of third through eighth-grade students with learning disabilities that indicated extended time was the most used accommodation in a reading assessment. Still, students' performances varied and were not correlated to the use of accommodations (Rudzki, 2015). For second through eighth-grade students who were deaf or hard of hearing, extended time was used most frequently with mixed effects on student reading and language achievement performance (Wolf, 2007). Fifth-grade students with various disabilities, particularly with emotional and cognitive disabilities followed by LD, were provided with extended time more often than other accommodations on reading, writing, language usage, mathematics, science, and social studies. Three-fourths of these students with disabilities received extended time most often bundled with oral delivery of directions, dictated responses, oral delivery of test directions and items, and a small group setting that yielded varying performance results (Hall, 2002).

- Four studies found that extended time did not impact student performance of students with LD. One study found that students with LD in grades K-5 did not use significantly more time than general education students to finish a reading assessment. The students scored lower regardless of the time allowed (Buehler, 2001). A comparison of ninth-grade students with LD on a mathematics assessment with non-accommodated students without disabilities showed no difference in test performance for students with LD (Cohen et al., 2005). Similarly, results from a study of fourth and fifth-grade students with LD found that they did not benefit from extended time (Fuchs et al., 2000a; Fuchs et al., 2000b).
- Three studies focusing on students with ADHD found that extended time had no significant impact on student achievement. One study found that middle school students with ADHD did not make more gains than students without ADHD on a mathematics assessment (Lewandowski et al., 2007). A second study found that secondary students' scores on the reasoning portions of reading, writing, and mathematics assessments were similar with and without extended time (Lindstrom & Gregg, 2007). In a third study, high school students benefited more from extended time on math than reading tests for medium and high-ability students compared to little to no benefit for low-ability students (Mandinach et al., 2005).
- One study involved analyzing IEPs that compared accommodations in the classroom with reading, writing, and math assessments of secondary students with various disabilities who had emotional and behavioral problems. In contrast to classroom instruction, extended time and small groups were provided more often than other accommodations on assessments. Furthermore, there were no differences associated with students' academic, emotional, and behavioral functioning on standardized tests with or without extended time (Kern et al., 2019).
- Three studies involving students with various disabilities found no differential impact of extended time on students' scores. One study of high school students with disabilities who used extended time, alone or bundled, on a state reading assessment showed that their performance was similar to that of students with disabilities who were not provided with any accommodations (Koretz & Hamilton, 2004). A second study found no significant improvements in scores for any of the eighth-grade students, with or without disabilities, on either the accommodated or non-accommodated version of a mathematics assessment (Elliott & Marquart, 2004). In the third study with fourth-grade students with various disabilities, extended time was the most common component in various accommodation bundles on a mathematics assessment; extended time was most bundled with oral delivery of the test items. There was no differential impact on the total scores for students with disabilities than students without disabilities, with and without accommodations (Schulte, 2000; Schulte et al., 2001).

What perceptions do students and teachers have about extended time? Three research studies examined student and teacher perceptions about the use of extended time.

- The majority of students indicated affirming reactions to using extended time, such as positive emotions and higher self-efficacy (Logan, 2009), and comfort and motivation (Elliott et al., 1999; Elliott & Marquart, 2004; and Marquart, 2000).
- Teachers supported the use of extended time and believed its use was fair and valid (Marquart, 2000).

What have we learned overall? The research on the effects of extended time is inconclusive. Some studies found benefit while others found mixed effects, or no effect. Some students with LD or ADHD may benefit from extended time when taking content assessments (e.g., reading/English language arts assessments, math assessment, science assessments). Much of the research bundled extended time with other accommodations (e.g., oral delivery). Extended time when bundled with other accommodations may help students' performance. There is a need for continued research to understand the use of extended time in isolation and its interaction in combination with different types and numbers of other accommodations for students with varying needs across content assessments.

Footnotes

[1]

Research on extended time summarized here is also available in NCEO's searchable *Accommodations for Students with Disabilities Bibliography* (https://nceo.info/Resources/bibliographies/accommodations/bibliography) and in NCEO syntheses of research from 1999 through 2018 (see summaries for: 1999–2001 (https://nceo.umn.edu/docs/OnlinePubs/TechReport34.pdf), 2002–2004 (https://nceo.umn.edu/docs/OnlinePubs/Tech45/Technical45.pdf), 2005–2006 (https://nceo.umn.edu/docs/OnlinePubs/Tech47/TechReport47.pdf), 2007–2008 (https://nceo.umn.edu/docs/OnlinePubs/Tech56/TechnicalReport56.pdf), 2009–2010 (https://nceo.umn.edu/docs/OnlinePubs/Tech65/TechnicalReport65.pdf), 2011–2012 (https://nceo.umn.edu/docs/OnlinePubs/Synthesis94/Synthesis94.pdf), 2013–2014 (https://nceo.umn.edu/docs/OnlinePubs/Report402/NCEOReport402.pdf), 2015–2016 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport412.pdf), 2017 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport418.pdf), 2018 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport423.pdf), 2019 (https://nceo.umn.edu/docs/OnlinePubs/NCEOReport433.pdf). See the reports and online bibliography for additional information about the criteria used to identify studies included in this fact sheet.

References

Antalek, E. E. (2005). The relationships between specific learning disability attributes and written language: A study of the performance of learning-disabled high school subjects completing the TOWL-3. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *65*(11). Retrieved from http://search.proquest.com/docview/305006698/abstract

Brown, T. E., Reichel, P. C., & Quinlan, D. M. (2011). Extended time improves reading comprehension test scores for adolescents with ADHD. *Open Journal of Psychiatry*, *1*(3), 79–87. https://doi.org/10.4236/jsemat.2011.13012

Buehler, K. L. (2001). Standardized group achievement tests and the accommodation of additional time. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *63*(04), 1312. Retrieved from http://search.proquest.com/docview/304700547/abstract

Cohen, A. S., Gregg, N., & Deng, M. (2005). The role of extended time and item content on a high-stakes mathematics test. *Learning Disabilities Research & Practice*, *20*(4), 225–233. https://doi.org/10.1111/j.1540-5826.2005.00138.x

Crawford, L., Helwig, R., & Tindal, G. (2004). Writing performance assessments: How important is extended time? *Journal of Learning Disabilities*, *37*(2), 132–142. https://doi.org/10.1177/00222194040370020401

Elliott, J., Bielinski, J., Thurlow, M., DeVito, P., & Hedlund, E. (1999). *Accommodations and the performance of all students on Rhode Island's performance assessment (Rhode Island Assessment Report 1)*. Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.

Elliott, S. N., & Marquart, A. M. (2004). Extended time as a testing accommodation: Its effects and perceived consequences. *Exceptional Children*, *70*(3), 349–367. https://doi.org/10.1177/001440290407000306

Fuchs, L. S., Fuchs, D., Eaton, S. B., Hamlett, C. L., Binkley, E., & Crouch, R. (2000). Using objective data sources to enhance teacher judgments about test accommodations. *Exceptional Children*, *67*(1), 67–81. https://doi.org/10.1177/001440290006700105

Fuchs, L. S., Fuchs, D., Eaton, S. B., Hamlett, C. L., & Karns, K. M. (2000). Supplementing teacher judgments of mathematics test accommodations with objective data sources. *The School Psychology Review*, *29*(1), 65–85. https://doi.org/10.1080/02796015.2000.12085998

Kappel, A. T. (2002). The effects of testing accommodations on subtypes of students with learning disabilities. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *63*(05). Retrieved from http://search.proquest.com/docview/305520451/abstract

Kern, L., Hetrick, A. A., Custer, B. A., & Commisso, C. E. (2019). An evaluation of IEP accommodations for secondary students with emotional and behavioral problems. *Journal of Emotional and Behavioral Disorders*, *27*(3), 178–192. https://doi.org/10.1177/1063426618763108

Lewandowski, L. J., Lovett, B. J., Parolin, R., Gordon, M., & Codding, R. S. (2007). Extended time accommodations and the mathematics performance of students with and without ADHD. *Journal of Psychoeducational Assessment*, *25*(1), 17–28. https://doi.org/10.1177/0734282906291961

Lindstrom, J. H., & Gregg, N. (2007). The role of extended time on the SAT for students with learning disabilities and/or attention-deficit/hyperactivity disorder. *Learning Disabilities Research & Practice*, *22*(2), 85–95. https://doi.org/10.1111/j.1540-5826.2007.00233.x

Logan, J. P. (2009). The affective and motivational impact of the test accommodation extended time based on students' performance goal orientations. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *70*(06).

Mandinach, E. B., Bridgeman, B., Cahalan-Laitusis, C., & Trapani, C. (2005). *The impact of extended time on SAT test performance*. Retrieved from http://www.ets.org/Media/Research/pdf/RR-05-20.pdf

Marquart, A. (2000). The use of extended time as an accommodation on a standardized mathematics test: An investigation of effects on scores and perceived consequences for students of various skill levels. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *61*(08). Retrieved from http://search.proquest.com/docview/304637151/abstract

Middleton, K. V. (2007). The effect of a read-aloud accommodation on items on a reading comprehension test for students with reading-based learning disabilities. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *68*(09).

Rudzki, D. R. (2015). The extent of programs, services, and attendance for students with reading disabilities and performance on high-stakes reading assessments. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *77*(09E). Retrieved from http://search.proquest.com/docview/1788597028/abstract

Schulte, A. A. G. (2000). Experimental analysis of the effects of testing accommodations on the students' standardized mathematics test scores. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *61*(08).

Schulte, A. A. G., Elliott, S. N., & Kratochwill, T. R. (2001). Effects of testing accommodations on standardized mathematics test scores: An experimental analysis of the performances of students with and without disabilities. *The School Psychology Review*, *30*(4), 527–547. https://doi.org/10.1080/02796015.2001.12086133

Wolf, J. (2007). The effects of testing accommodations usage on students' standardized test scores for deaf and hard-of-hearing students in Arizona public schools. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *68*(06). Retrieved from http://search.proquest.com/docview/304894200/abstract

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